

**CLASS 86, AMMUNITION AND EXPLOSIVE-CHARGE MAKING****SECTION I - CLASS DEFINITION**

Instruments and processes peculiarly adapted for making fixed ammunition, including percussion caps, cartridges, or other explosive charges for firearms or ordnance, pyrotechnic devices, blasting charges, etc.

- (1) Note. This class also takes subject matter closely related to ammunition and explosive-charge making, when not elsewhere provided for, including ammunition shell unloading and bomb disposal (see Subclass References to the Current Class, below).

**SECTION II - LINES WITH OTHER CLASSES AND WITHIN THIS CLASS**

Such single operations as rolling, turning, milling, boring, forging, casting, molding, coating, die-shaping, drawing, extruding, even though applied to manufacture of ammunition, are classified in appropriate functional classes. Making projectiles or other metal parts of ammunition by general metal-working operations is in appropriate metal-working classes. An operation of making a paper tube or paper body generally is in Class 493, particularly subclasses 269+ even though applicable to manufacture of cartridge cases.

**SECTION III - SUBCLASS REFERENCES TO THE CURRENT CLASS**

SEE OR SEARCH THIS CLASS, SUBCLASS:

- 49, for ammunition shell unloading.  
50, for bomb disposal.

**SECTION IV - REFERENCES TO OTHER CLASSES**

SEE OR SEARCH CLASS:

- 29, Metal Working, subclass 1.1, 1.2 and 1.3, and indented subclasses respectively.  
100, Presses, appropriate subclasses for presses not elsewhere provided for.  
102, Ammunition and Explosives, for the products produced by the processes and apparatus of this class (86).

- 134, Cleaning and Liquid Contact With Solids, for processes of, or apparatus for, removing explosives from explosive shells, particularly subclass 5, 23 and 24, for processes and 94.1+ and 166+ for apparatus.  
149, Explosive and Thermic Compositions or Charges, for products and compositions utilized in this class.  
156, Adhesive Bonding and Miscellaneous Chemical Manufacture, appropriate subclasses, particularly subclasses 184+ for processes of making paper tubes by a laminating operation.  
427, Coating Processes, subclasses 212+ for general processes of coating particles flakes or granules.  
588, Hazardous or Toxic Waste Destruction or Containment, subclass 202 for the destruction of explosives, propellants, or pyrotechnics other than bombs.

**SUBCLASSES****1.1 MISCELLANEOUS:**

This subclass is indented under the class definition. Machines and devices not otherwise classifiable for making the articles named in the ...

- 10** Miscellaneous machines and devices for making percussion caps and cartridges for firearms.

- 11** Miscellaneous machines for making metal-headed shells for shot-cartridges.

- (1) Note. For shells see Class 102, Ammunition and Explosives, subclass 464.

- 12** Machines for setting reinforces, wads, heads, caps, or for otherwise assembling the parts of paper cartridge-shells.

- 17** Machines for varnishing the interior of cap and cartridge shells or for covering the fulminate or shell interior with metal foil.

**18 Assembling, e.g., metal, plastic:**

This subclass is indented under subclass 10. Subject matter includes putting together an explosive charge holding part to a tubular powder holding casing.

**19** Machines and devices for lubricating bullets, wads, and cartridges. A few machines cut as well as lubricate the wads.

**19.5 Firearm cartridge casing:**

This subclass is indented under subclass 10. Subject matter includes process or apparatus peculiarly adapted for fabricating a metallic case for fixed ammunition.

- (1) Note. "Fixed ammunition" comprises an assembly including a projectile and propellant.
- (2) Note. The "casing" of this subclass may be referred to as a "shell" or as a "hull".

SEE OR SEARCH THIS CLASS, SUBCLASS:

23, for ammunition loading.

SEE OR SEARCH CLASS:

- 72, Metal Deforming, 253.1 for deforming by extruding, particularly subclasses 264 through 269 for the forming of a hollow product and subclasses 343 through 361 for push-drawing to form a cup or shell.
- 102, Ammunition and Explosives, 464 for cartridge cases.
- 413, Sheet Metal Container Making, for making a container of metal involving plural distinct metal working operations, generally.

**19.6 Deforming step, e.g., heading:**

This subclass is indented under subclass 19.5. Subject matter includes shaping by applying a force to the case end causing the case end to collapse or flow.

**19.7 Trimming, deburring, or other finishing operation:**

This subclass is indented under subclass 19.5. Subject matter includes cutting off, rubbing off, or other work to remove excess casing material in preparation for loading or reloading.

**19.8 Primer, primer anvil, percussion cap making:**

This subclass is indented under subclass 10. Subject matter includes fabricating an explosive charge igniter.

**20.1 LOADING FIREWORKS AND BURSTING CHARGES:**

This subclass is indented under the class definition. Apparatus or process for:

- (1) Filling or ramming fireworks,
- (2) Placing the bursting charge in a projectile, or
- (3) Placing, tamping and/or priming charges in blast holes to be fired as blasts.

SEE OR SEARCH CLASS:

102, Ammunition and Explosives, subclasses 310+ for blasting means which include plugs for closing blast holes.

**20.11 Filling and ramming fireworks:**

This subclass is indented under subclass 20.1. Subject matter for loading into a suitable enclosure compositions appropriate for serving as fire works when discharged.

- (1) Note. Fireworks are devices which comprise various combustion of explosive and/or combustible materials used to generate colored lights, smoke and/or noises for the purpose of either signaling or amusement. Such device sometimes referred to as pyrotechnics.

**20.12 By casting:**

This subclass is indented under subclass 20.1. Subject matter in which the operation performed involves the transfer of the explosive or combustible material in a molten condition into a mold or other shape in parting means.

**20.13 By vibratory packing:**

This subclass is indented under subclass 20.1. Subject matter in which the operation performed involves vibration or a confining enclosure containing the explosive or combustible material in granular form for the purpose of compacting that material.

**20.14 Placing bursting charge in projectile:**

This subclass is indented under subclass 20.1. Subject matter in which the operation performed includes positioning a charge which will be exploded in use within a container which will be forcibly ejected.

- (1) Note. This may involve, e.g., placement of an explosive charge into the shell of a bullet, etc.

**20.15 Placing, tamping or priming charge into blasthole:**

This subclass is indented under subclass 20.1. Subject matter involving placement of compacting of an explosive charge into a cavity in a solid material where it is to be detonated.

- (1) Note. This may involve, e.g., placement or ramming in of an explosive charge into a cylindrical hole bored into a rock quarry, etc.

**21** This subclass is indented under subclass 20. Hand supported and operated devices .

**22** Tools for cutting, capping and placing fuses in blasting charges.

**SEE OR SEARCH CLASS:**

- 7, Compound Tools, subclass 104.  
30, Cutlery, appropriate subclasses for mere cutting tools of more general application.  
89, Ordnance, subclasses 6+ for fuse setters for encased fuses of explosive devices.

**23** Machines and devices not otherwise classifiable for loading or reloading fixed ammunition for small-arms and ordnance.

**SEE OR SEARCH CLASS:**

- 53, Package Making, subclasses 147+ for apparatus to form groups of contents units and to subsequently package same.

**24** Hand supported and operated devices not otherwise classifiable for performing the various operations of loading and reloading cartridges. A few perform various other additional functions, such as molding and sizing bullets, sizing

and trimming shells, extracting cartridges from barrels or firearms, etc.

- (1) Note. All devices having a fixed base or means for clamping to a fixed support are considered machines throughout this class and are correspondingly classified.

**SEE OR SEARCH CLASS:**

- 81, Tools, subclass 3.05 for shell, projectile or wad extractors, per se.

**25** Machines and devices for filling, wadding, and ramming the charge and then contracting the mouth of the shell either above the outer wad or upon the periphery of the bullet. All the operations of loading are performed except capping and uncapping and in many cases these also.

**SEE OR SEARCH CLASS:**

- 53, Package Making, subclasses 266+ for machines to form a package by filling a preformed receptacle and subsequently closing the same.

**26** Machines for loading or reloading and crimping cartridges in which the shells are fed through the machine in a straight line by means of guides, independent holders, or endless linked tables.

**27** Machines for loading and crimping, cartridges in which the shells are carried to the various loading devices by a rotary table having a step-by-step movement. Many automatic machines are included which perform all the loading steps except capping the shells.

**28** Hand supported and operated devices for loading and closing cartridge-shells either by crimping the cartridge upon the outer wad or swaging it upon the bullet. Some of these implements lack means for capping and uncapping the shells or for measuring and inserting the contents.

**29** Machines and devices for placing the powder and shot in cartridges and setting the wads in the same.

**SEE OR SEARCH THIS CLASS, SUB-CLASS:**

- 20.1, 25, 26, and 27.

- 30** Machines and devices for compacting the charges in cartridges or setting wads in the same. The machines usually have means for applying the same pressure to each of a number of ramming pistons.
- 31** Instruments for measuring powder and shot charges and conveying the same into the shells to be loaded.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
25, 26, 27, and 29.
- 32** Machines for supplying cap and cartridge shells with fulminate. In many cases the explosive is spread or packed in the shell by rapidly rotating the latter.
- 33** Hand-supported devices for measuring charging and placing the same in shells.
- 36** Instruments for removing exploded primers from used cartridges or for setting fresh primers, or both.
- 37** Hand supported and operated devices for removing exploded primers or for setting fresh ones, or both.
- SEE OR SEARCH CLASS:  
29, Metal Working, subclasses 244+ for related assembling and disassembling tools.  
81, Tools, subclasses 3.07+ for receptacle closure removing tools.
- 38** Hand-operated capping and uncapping devices having a receptacle for holding and presenting a fresh primer to the capping means.
- SEE OR SEARCH CLASS:  
221, Article Dispensing, appropriate subclasses for article dispensers not otherwise provided for, including magazine type supply containers.
- 39** Instruments for closing paper shells upon the outer wad or for swaging a metal shell upon the bullet. The wad may be held by turning in the mouth of the shell, by creasing it in longitudinal folds, or by indenting or perforating the shell just above the wad.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
23, 25, 26, and 27.
- SEE OR SEARCH CLASS:  
53, Package Making, subclasses 285+ for machines which complete the forming of a package by an end closing operation.
- 40** Hand supported and operated devices for closing shells to secure the outer wad or the bullet in place.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
24, and 28.
- 41** Those elements of crimping-machines which directly effect the closing of the cartridge.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
24, 25, 26, 27, 39, and 40.
- 42** Instruments for cutting and attaching cloth patches to bullets.
- 43** Instruments for pressing bullets into cartridge-shells.
- 44** Devices for holding shells in convenient position for loading.
- SEE OR SEARCH THIS CLASS, SUB-CLASS:  
31,
- 45** Instruments for conveying bullets, shells, wads, etc., to the working parts of ammunition-making and loading machines.
- SEE OR SEARCH CLASS:  
221, Article Dispensing, appropriate subclasses for other article dispensing or feeding devices, not otherwise classified, and see the class definition of Class 221 for a statement of the line between the classes and for the disposition of other disclosures of similar subject matter.

- 470, Threaded, Headed Fastener, or Washer Making: Process and Apparatus, subclasses 162+ for feeding and distributing devices and subcombinations specialized to the purposes of that class.
- 46** Instruments for feeding empty shells to ammunition-making and loading machines.
- SEE OR SEARCH CLASS:  
198, Conveyors: Power-Driven, subclasses 343.1+ and 373+ for a conveyor having means for orienting the conveyed load relative to the conveyor.
- 47** Instruments for packaging cartridges for shipping.
- SEE OR SEARCH CLASS:  
53, Package Making, for apparatus for depositing articles in preformed receptacles with or without subsequent closing of the receptacle.
- 48** Machines for loading or filling belts with cartridges.
- 49** **AMMUNITION SHELL UNLOADING:**  
This subclass is indented under the class definition. Apparatus and process for removing contents from ammunition shells.
- 50** **BOMB DISPOSAL:**  
This subclass is indented under the class definition. Apparatus and process for destroying or rendering harmless bomb-like devices.
- SEE OR SEARCH CLASS:  
588, Hazardous or Toxic Waste Destruction or Containment, subclass 202 for destruction of explosives other than bombs.
- 51** **ORDNANCE TYPE PROJECTILE MAKING, INCLUDING FINNED:**  
This subclass is indented under the class definition. Subject matter includes fabricating a body propelled by a gun adapted to be mounted or supported otherwise than by hand and perhaps having an attached airfoil.
- 52** **Sabot:**  
This subclass is indented under subclass 51. Subject matter includes a thrust transmitting carrier that positions a missile in a gun barrel or launching tube and that prevents the escape of gas ahead of the missile.
- 53** **Hollow, shrapnel containing type shell:**  
This subclass is indented under subclass 51. Subject matter includes fabricating the body with a cavity therein to contain a bursting or other charge along with metal fragments designed to explode in flight and scatter the metal fragments.
- 54** **BULLET OR FIREARM TYPE, e.g., PELLET, MAKING:**  
This subclass is indented under the class definition. Subject matter includes fabricating a small rounded or spherical body propelled by a gun supported by hand.
- 55** **Jacketed or covered, including partially:**  
This subclass is indented under subclass 54. Subject matter includes an outer layer of material over the body that is over all or a portion of the body.
- 56** **BOMB FABRICATING:**  
This subclass is indented under the class definition. Subject matter includes explosive means, when in use that falls without the use of applied force.
- 57** **SHOT MAKING, FIREARM TYPE:**  
This subclass is indented under the class definition. Subject matter includes fabricating a small, spheroid element, usually in a quantity to fill a cartridge or casing.
- SEE OR SEARCH CLASS:  
29, Metal Working, subclass 899 for ball making.
- END**